

IN THE CLAIMS:

This listing of claims will replace prior version, and listings, of claims in the application:

1. (Currently amended) A semiconductor device comprising:
a gate electrode formed on an insulating surface;
a gate insulating film comprising at least a single layer on said gate electrode; and
~~a crystalline semiconductor film comprising~~ a source region, a drain region, and a channel formation region formed between said source region and said drain region, the respective regions being in contact with said gate insulating film;
wherein said gate insulating film includes a layer of a silicon nitride oxide film containing boron.
2. (Previously presented) A semiconductor device according to claim 1, wherein a composition ratio of boron in said silicon nitride oxide film is 0.1 to 50 atoms%.
3. (Previously presented) A semiconductor device according to claim 1, wherein a composition ratio of oxygen in said silicon nitride oxide film is 1 to 30 atoms%.
4. (Previously presented) A semiconductor device according to claim 1, wherein said semiconductor device is incorporated into a device selected from the group consisting of an electro-optical device and an electronic equipment.
5. (Previously presented) A semiconductor device according to claim 4, wherein said

electro-optical device is one selected from the group consisting of a liquid crystal display device, an EL display device, an EC display device, and an image sensor.

6. (Previously presented) A semiconductor device according to claim 4, wherein said electronic equipment is one selected from the group consisting of a video camera, a digital camera, a projector, a goggle display, a car navigation system, a personal computer, and a portable information terminal.

7. (Previously presented) A semiconductor device comprising:

a source region, a drain region, and a channel formation region formed between said source region and said drain region, the respective regions being in contact with an insulating surface;

"on" can be over or under

a gate insulating film comprising at least a single layer on said channel formation region; and

a gate electrode to be in contact with said gate insulating film;

wherein said gate insulating film includes a layer of a silicon nitride oxide film containing boron.

8. (Previously presented) A semiconductor device according to claim 7, wherein a composition ratio of boron in said silicon nitride oxide film is 0.1 to 50 atoms%.

9. (Previously presented) A semiconductor device according to claim 7, wherein a composition ratio of oxygen in said silicon nitride oxide film is 1 to 30 atoms %.

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10. (Previously presented) A semiconductor device according to claim 7, wherein said semiconductor device is incorporated into a device selected from the group consisting of an electro-optical device and an electronic equipment.

11. (Previously presented) A semiconductor device according to claim 10, wherein said electro-optical device is one selected from the group consisting of a liquid crystal display device, an EL display device, and EC display device, and an image sensor.

12. (Previously presented) A semiconductor device according to claim 10, wherein said electronic equipment is one selected from the group consisting of a video camera, a digital camera, a projector, a goggle display, a car navigation system, a personal computer, and a portable information terminal.

13. (Currently amended) A semiconductor device comprising:

an insulating film formed on an insulating surface; and

a semiconductor component formed on said insulating film, said semiconductor component comprising ~~crystalline semiconductor film~~ as a source region, a drain region, and a channel formation region formed between the source region and the drain region, the respective regions being in contact with said insulating thereof;

wherein said insulating film is a silicon nitride oxide film containing boron.

14. (Previously presented) A semiconductor device according to claim 13, wherein a

composition ratio of boron in said silicon nitride oxide film is 0.1 to 50 atoms%.

15. (Previously presented) A semiconductor device according to claim 13, wherein a composition ratio of oxygen in said silicon nitride oxide film is 1 to 30 atoms%.

16. (Previously presented) A semiconductor device according to claim 13, wherein said semiconductor device is incorporated into a device selected from the group consisting of an electro-optical device and an electronic equipment.

17. (Previously presented) A semiconductor device according to claim 16, wherein said electro-optical device is one selected from the group consisting of a liquid crystal display device, an EL display device, an EC display device, and an image sensor.

18. (Previously presented) A semiconductor device according to claim 16, wherein said electronic equipment is one selected from the group consisting of a video camera, a digital camera, a projector, a goggle display, a car navigation system, a personal computer, and a portable information terminal.

19. (Currently Amended) A semiconductor device comprising:

a semiconductor component formed on an insulating surface, said semiconductor component comprising a source region, a drain region, and a channel formation region; and

an insulating film for protecting said semiconductor component, said insulation film being in contact with the source region, the drain region, and the channel formation region said

~~semiconductor component comprising crystalline semiconductor film as a channel formation region thereof;~~

wherein said insulating film is a silicon nitride oxide film containing boron.

20. (Previously presented) A semiconductor device according to claim 19, wherein a composition ratio of boron in said silicon nitride oxide film is 0.1 to 50 atoms%.

21. (Previously presented) A semiconductor device according to claim 19, wherein a composition ratio of oxygen in said silicon nitride oxide film is 1 to 30 atoms%.

22. (Previously presented) A semiconductor device according to claim 19, wherein said semiconductor device is incorporated into a device selected from the group consisting of an electro-optical device and an electronic equipment.

23. (Previously presented) A semiconductor device according to claim 22, wherein said electro-optical device is one selected from the group consisting of a liquid crystal display device, an EL display device, an EC display device, and an image sensor.

24. (Previously presented) A semiconductor device according to claim 22, wherein said electronic equipment is one selected from the group consisting of a video camera, a digital camera, a projector, a goggle display, a car navigation system, a personal computer, and a portable information terminal.

25-31. (Canceled)

32. (New) A semiconductor device according to claim 1, wherein an internal stress of said silicon nitride oxide film is a range of -5×10^{10} dyn/cm² to 5×10^{10} dyn/cm².

33. (New) A semiconductor device according to claim 7, wherein an internal stress of said silicon nitride oxide film is a range of -5×10^{10} dyn/cm² to 5×10^{10} dyn/cm².

34. (New) A semiconductor device according to claim 13, wherein an internal stress of said silicon nitride oxide film is a range of -5×10^{10} dyn/cm² to 5×10^{10} dyn/cm².

35. (New) A semiconductor device according to claim 19, wherein an internal stress of said silicon nitride oxide film is a range of -5×10^{10} dyn/cm² to 5×10^{10} dyn/cm².

REMARKS

Applicant will address each of the Examiner's objections and rejections in the order in which they appear in the Final Rejection.

Claim Rejections - 35 USC §112

The Examiner rejects Claims 1-24 under 35 USC §112, second paragraph, as being indefinite. In particular, the Examiner objects to the phrase a "crystalline semiconductor film" in the claims.

In order to advance the prosecution of this application, Applicant has amended Claims 1, 13 and 19 to remove the objected to language. Accordingly, it is requested that this rejection now be withdrawn

Claim Rejections - 35 USC §102

The Examiner also rejects Claim s1-24 under 35 U.S.C. 102(b) as being anticipated by Japanese laid open applications 08-254713 (herein "Fukuda"). This rejection is respectfully traversed.

In the Final Rejection, the Examiner appears to be relying on the previous office action for his explanation that the cited reference includes all of the structural features of the claimed invention. Previously, the Examiner stated that "for example, comparing applicant's claim 1 structure with Fig. 1 of Fukuda, there is seen a semiconductor device having a gate (2) formed on an insulating surface (1), a gate insulating film (3a and 3b) formed on the gate electrode, source, drain, and channel region formed on the gate insulator layer, and where the gate insulating film includes a layer of silicon nitride oxide (3a) containing boron" (emphasis added).

Independent Claim 1 of the present application, however, recites that the source region and the drain region are in contact with the gate insulating film, wherein the insulating film includes a layer of silicon nitride oxide containing boron. Independent Claims 13 and 19 have been amended in a similar manner.

In contrast, Fig. 1 of Fukuda clearly shows that the source region and the drain region are NOT in contact with the (gate) insulating film. Hence, Fukuda fails to disclose or suggest the device of independent Claims 1, 13 and 19, or those claims dependent thereon.

With regard to independent Claim 7, this claim recites that the gate insulating film includes a layer of a silicon nitride oxide film containing boron and that the gate insulating film is on the channel formation region. In contrast, Fukuda shows the channel formation region on the gate insulating film. Hence, the claimed invention is different and is not disclosed or suggested by the cited reference.

Therefore, for at least the above-stated reasons, the cited reference fails to disclose or suggest the claimed invention. Accordingly, it is respectfully requested that this rejection be withdrawn.

New Claims

Applicant is adding new dependent Claims 32-35 herewith. Please charge our deposit account 50/1039 for any fee due for such claims.

IDS

Applicant is included an IDS herewith. It is requested that this IDS be considered before any further action is entered in this application.

Conclusion

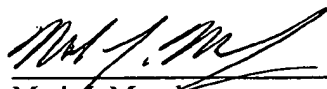
Applicant respectfully submits that the present application is now in a condition for allowance and should be allowed.

Please charge our deposit account 50/1039 for any fee due for this amendment.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,

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